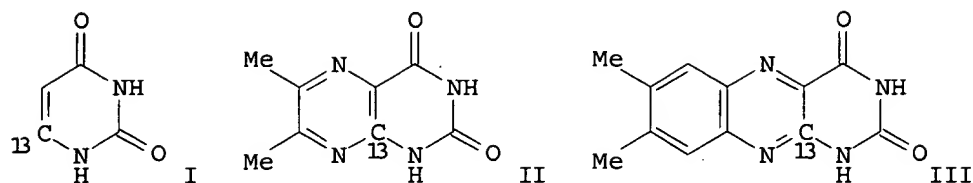


L18 ANSWER 45 OF 53 CAPLUS COPYRIGHT 2003 ACS  
AB <sup>13</sup>C NMR spectra of uridine-4-<sup>13</sup>C in Salmonella typhimurium 5 S RNA at  
37.degree. and 75.degree. are reported. The presence of 8 well-resolved  
lines at the lower temp. is attributed to the effect of secondary  
structure upon the uridine resonances and this line structure is suggested  
as a means of studying such secondary interactions in this species of  
rRNA. The amt. of rigid secondary structure in the mol. is estd. to be  
>75%.

AN 1978:84750 CAPLUS  
DN 88:84750  
TI Carbon magnetic resonance spectroscopy on **carbon-13**  
-labeled **uracil** in 5S ribonucleic acid  
AU Hamill, W. David, Jr.; Grant, David M.; Cooper, R. Beth; Harmon, Shirley  
A.  
CS Dep. Chem., Univ. Utah, Salt Lake City, UT, USA  
SO Journal of the American Chemical Society (1978), 100(2), 633-5  
CODEN: JACSAT; ISSN: 0002-7863  
DT Journal  
LA English



AB The title compds. (I-III, resp.) were prepd. in 2, 4, and 5 steps, resp., from the key intermediate,  $\text{H}_2\text{NCONHCOCH}_2^{13}\text{CN}$ , prepd. by condensation of  $\text{K}^{13}\text{CN}$  with  $\text{ClCH}_2\text{CO}_2\text{H}$  in the presence of  $\text{Na}_2\text{CO}_3$  at 40-50.degree. followed by reaction with urea.

AN 1978:443325 CAPLUS

DN 89:43325

TI Synthesis of **carbon-13** labeled **uracil**, 6,7-dimethyluracil, and lumichrome, via a common intermediate: cyanoacetylurea

AU Triplett, J. W.; Mack, S. W.; Smith, S. L.; Digenis, G. A.

CS Coll. Pharm., Univ. Kentucky, Lexington, KY, USA

SO Journal of Labelled Compounds and Radiopharmaceuticals (1978), 14(1), 35-41

CODEN: JLCRD4; ISSN: 0362-4803

DT Journal

LA English

L18 ANSWER 36 OF 53 CAPLUS COPYRIGHT 2003 ACS

AB Unfractionated tRNA from a uracil-requiring auxotroph of Salmonella typhimurium grown in the presence of 90% C-4 <sup>13</sup>C-labeled uracil is studied by <sup>13</sup>C NMR spectroscopy. <sup>13</sup>C NMR chem.-shift spectra were obtained at 23.5 kG at 5 temps. over a range of 23-82.degree. and at 84.6 kG at 37.degree.. Spin-lattice relaxation rates were measured at 23.5 kG at 4 temps. over a range of 23-60.degree. and an approx. relaxation rate was measured at 84.6 kG at 37.degree.. Nuclear Overhauser enhancements (NOEs) were measured at 23.5 kG at 37.degree. and at 60.degree.. The spectra show 2 distinct, narrow lines, one assignable to 4-thiouridine and the other to dihydrouridine. The uridine lines along with lines belonging to ribothymidine and pseudouridine form a band of partially resolved lines which result from the chem.-shift nonequivalence of the uridines, pseudouridines, and ribothymidines caused by the secondary and tertiary structure of the mol. The relaxation rate data are analyzed in terms of H+-dipolar, <sup>14</sup>N-dipolar, and chem. shift anisotropic relaxation mechanisms. The rotational correlation time is computed to be 3 .times. 10-8 s, which is in agreement with previously reported measurements. Changes in the relaxation rates and the NOEs as a function of temp. are discussed in terms of the unfolding of the mol. and in terms of motional freedom of the D loop compared to the rest of the mol.

AN 1980:509178 CAPLUS

DN 93:109178

TI Nuclear magnetic resonance relaxation studies of carbon-13 labeled uracil in transfer ribonucleic acid

AU Hamill, W. David, Jr.; Horton, W. James; Grant, David M.

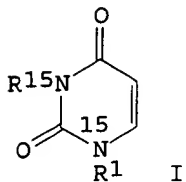
CS Dep. Chem., Univ. Utah, Salt Lake City, UT, 84112, USA

SO Journal of the American Chemical Society (1980), 102(17), 5454-8

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA English



AB Cyclocondensation of urea-15N2 with CH.tplbond.CCO2H in polyphosphoric acid at 85.degree. for 4 h gave 77.3% uracil-1,3-15N2 (I; R = R1 = H) (II). Random methylation of II with (CD3)2SO4 gave, after ion-exchange purifn., 17.2% I (R = H, R1 = CD3), 18.4% I (R = CD3, R1 = H) and 10.3% I (R = R1 = CD3). The 15N and 1H NMR spectra of the prepd. compds. are reported.

AN 1980:514440 CAPLUS

DN 93:114440

TI Synthesis of **nitrogen-15** labeled **uracil** and its 1-deuteriomethyl, 3-deuteriomethyl, and 1,3-deuteriomethyl derivatives

AU Lipnick, Robert L.; Fissekis, John D.

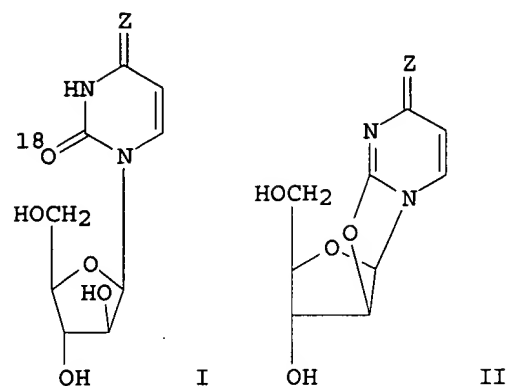
CS Mem. Sloan-Kettering Cancer Cent., New York, NY, 10021, USA

SO Journal of Labelled Compounds and Radiopharmaceuticals (1980), 17(2), 247-54

CODEN: JLCRD4; ISSN: 0362-4803

DT Journal

LA English



AB The title compds. (I; Z = NH, O, resp.) were prepd. by oxidative ring cleavage of the nucleosides II (Z = NH.HCl, O, resp.) with Na<sup>18</sup>OH/H<sup>218</sup>O. The site and level of incorporation of the label was established by mass spectrometry.

AN 1983:107660 CAPLUS

DN 98:107660

TI Oxygen-18-labeled nucleosides. 3. Preparation and mass spectrometric evaluation of 18O<sup>2</sup>-labeled 1-(β-D-arabinofuranosyl)cytosine and -uracil

AU Schubert, Ernst M.; Schram, Karl H.

CS Dep. Pharm. Sci., Univ. Arizona, Tucson, AZ, 85721, USA

SO Journal of Labelled Compounds and Radiopharmaceuticals (1982), 19(8), 929-35

CODEN: JLCRD4; ISSN: 0362-4803

DT Journal

LA English

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AB Gas chromatog. and mass spectrometric methods for the measurement of the flux through the de novo pyrimidine biosynthetic pathway by quantitating the incorporation of [13C]bicarbonate and 13CO2 into the uracil nucleotide pool in L1210 tumors are reported. Simultaneous measurements of the incorporation of [13C]bicarbonate and the more commonly used [14C]bicarbonate into uridine of L1210 cells in vitro showed that the 2 methods were comparable. A modification of the method was applied to in vivo studies in which the incorporation of 13CO2 into the uracil nucleotide pool of L1210 tumors in mice was quantitated. The measurements were used to det. changes in the flux through the de novo pyrimidine pathway in animals pretreated with known inhibitors of the pathway. A comparison of control animals with those pretreated with 6-azauridine, acivicin, and pyrazofurin resulted in mean percentage inhibitions of 87, 95, and 94%, resp. The title method allows investigation of the resp. contributions of salvage and de novo synthesis in the formation of pyrimidines in vivo and the effects of enzyme inhibitors of the de novo pathway.

AN 1983:518788 CAPLUS

DN 99:118788

TI A carbon-13 tracer method for quantitating de novo pyrimidine biosynthesis in vitro and in vivo

AU Strong, John M.; Anderson, Lawrence W.; Monks, Anne; Chisena, Christine A.; Cysyk, Richard L.

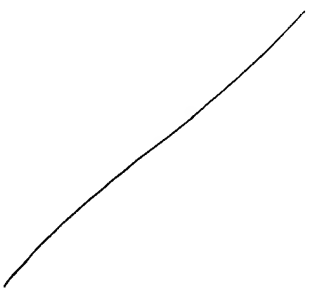
CS Lab. Chem. Pharmacol., Natl. Cancer Inst., Bethesda, MD, 20205, USA

SO Analytical Biochemistry (1983), 132(2), 243-53

CODEN: ANBCA2; ISSN: 0003-2697

DT Journal

LA English



L18 ANSWER 18 OF 53 CAPLUS COPYRIGHT 2003 ACS  
AB On the basis of a valence force field, the frequencies of the vibrational modes of uracil and its 180 derivs. substituted in the 2-, the 4- and the 2,4-positions, were calcd. The frequencies were compared with those available from the UV resonance Raman spectra. The resonance Raman bands obsd. exptl. in the spectra of the uracil 2-, 4- and 2,4-dithio derivs. were calcd. with an equiv. extended force field, and a tentative assignment of these lines is proposed.  
AN 1986:487745 CAPLUS  
DN 105:87745  
TI Interpretation of the vibrational modes of uracil and its oxygen-18-substituted and thio derivatives studied by resonance Raman spectroscopy  
AU Ghomi, M.; Letellier, R.; Taillandier, E.; Chinsky, L.; Laigle, A.; Turpin, P. Y.  
CS Lab. Spectrosc. Biomol., Bobigny, 93000, Fr.  
SO Journal of Raman Spectroscopy (1986), 17(3), 249-55  
CODEN: JRSPAF; ISSN: 0377-0486  
DT Journal  
LA English

18 ANSWER 3 OF 53 CAPLUS COPYRIGHT 2003 ACS  
AB A mixt. of  $^{13}\text{C}$ -carbon monoxide, nitrogen, and water was irradiated with  
high energy protons.  $^{13}\text{C}$ -labeled uracil was identified in the product by  
GC/MS, resulting in confirmed abiotic formation of uracil, one of the RNA  
bases.  
AN 1997:626963 CAPLUS  
DN 127:247955  
TI Abiotic synthesis of uracil from carbon monoxide, nitrogen and water by  
proton irradiation  
AU Kobayashi, Kensei; Tsuji, Toru  
CS Department Physical Chemistry, Yokohama National University, Yokohama,  
240, Japan  
SO Chemistry Letters (1997), (9), 903-904  
CODEN: CMLTAG; ISSN: 0366-7022  
PB Chemical Society of Japan  
DT Journal  
LA English



L15 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS  
AB The incorporation of C-4 C-13-labeled uracil  
into tRNA of a mutant strain of Salmonella typhimurium and its C NMR  
spectrum at 37.degree. and 82.degree. are reported. In addn. to the major  
line belonging to labeled uridine in tRNA, 2 smaller lines, 1 assigned to  
dihydrouridine and the other tentatively assigned to pseudouridine, were  
obsd. Changes in the spectra going from 37.degree. to 82.degree. are  
discussed in terms of known models for tRNA.  
AN 1976:131665 CAPLUS  
DN 84:131665  
TI Magnetic resonance spectroscopy on carbon-13 labeled uracil in transfer  
ribonucleic acid  
AU Hamiill, W. David, Jr.; Grant, David M.; Horton, W. James; Lundquist,  
Ronald; Dickman, Sherman  
CS Dep. Chem., Univ. Utah, Salt Lake City, UT, USA  
SO Journal of the American Chemical Society (1976), 98(5), 1276-8  
CODEN: JACSAT; ISSN: 0002-7863  
DT Journal  
LA English

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6 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2003 ACS

AB Chem. shift assignments are made for the C atoms of the uracil  
-bisulfite adduct by specific labeling with D and C-13  
. The signals of the analogous adducts from 5-chlorouracil and  
5-fluorouracil are assigned.  
AN 1977:536255 CAPLUS  
DN 87:136255  
TI Carbon-13 chemical shift assignments for the bisulfite adducts of uracil,  
5-deuterouracil, 5-fluorouracil and 5-chlorouracil  
AU Triplett, J. W.; Digenis, G. A.; Layton, W. J.; Smith, S. L.  
CS Coll. Pharm., Univ. Kentucky, Lexington, KY, USA  
SO Spectroscopy Letters (1977), 10(3), 141-7  
CODEN: SPLEBX; ISSN: 0038-7010  
DT Journal  
LA English

L16 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2003 ACS

AB The incorporation of C-4 C-13-labeled uracil  
into tRNA of a mutant strain of Salmonella typhimurium and its C NMR  
spectrum at 37.degree. and 82.degree. are reported. In addn. to the major  
line belonging to labeled uridine in tRNA, 2 smaller lines, 1 assigned to  
dihydrouridine and the other tentatively assigned to pseudouridine, were  
obsd. Changes in the spectra going from 37.degree. to 82.degree. are  
discussed in terms of known models for tRNA.  
AN 1976:131665 CAPLUS  
DN 84:131665  
TI Magnetic resonance spectroscopy on carbon-13 labeled uracil in transfer  
ribonucleic acid  
AU Hamiill, W. David, Jr.; Grant, David M.; Horton, W. James; Lundquist,  
Ronald; Dickman, Sherman  
CS Dep. Chem., Univ. Utah, Salt Lake City, UT, USA  
SO Journal of the American Chemical Society (1976), 98(5), 1276-8  
CODEN: JACSAT; ISSN: 0002-7863  
DT Journal  
LA English

L16 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2003 ACS

AB Carbon-13 NMR spectral studies of .beta.-pseudouridine  
were compared with thymine, uracil, uridine, and  
.beta.-cyanuric acid riboside and of showdomycin were compared with  
maleimide and citraconimide.  
AN 1973:453724 CAPLUS  
DN 79:53724  
TI Carbon-13 NMR spectra of C-nucleosides. Showdomycin and  
.beta.-pseudouridine  
AU Chenon, Marie T.; Pugmire, Ronald J.; Grant, David M.; Panzica, Raymond  
P.; Townsend, Leroy B.  
CS Dep. Chem., Univ. Utah, Salt Lake City, UT, USA  
SO Journal of Heterocyclic Chemistry (1973), 10(3), 427-9  
CODEN: JHTCAD; ISSN: 0022-152X  
DT Journal  
LA English

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17 ANSWER 44 OF 61 CAPLUS COPYRIGHT 2003 ACS  
AB Chem. shift assignments are made for the C atoms of the uracil  
-bisulfite adduct by specific labeling with D and C-13  
. The signals of the analogous adducts from 5-chlorouracil and 5  
-fluorouracil are assigned.  
AN 1977:536255 CAPLUS  
DN 87:136255  
TI Carbon-13 chemical shift assignments for the bisulfite adducts of  
uracil, 5-deuterouracil, 5-fluorouracil and  
5-chlorouracil  
AU Triplett, J. W.; Digenis, G. A.; Layton, W. J.; Smith, S. L.  
CS Coll. Pharm., Univ. Kentucky, Lexington, KY, USA  
SO Spectroscopy Letters (1977), 10(3), 141-7  
CODEN: SPLEBX; ISSN: 0038-7010  
DT Journal  
LA English

18 ANSWER 52 OF 53 CAPLUS COPYRIGHT 2003 ACS  
AB First-order  $^{13}\text{C}$  spectra have been obtained for uracil, thymine, and the  
5-halouracils. The  $^{13}\text{C}$  chem. shifts in these compds. are correlated  
reasonably well with  $\pi$  and total electron charge ds. calcd. with  
extended-Hueckel theory. In addn., for the 5-halouracils the  $^{13}\text{C}$  chem.  
shifts are correlated quite well with substituent electronegativity, EX.  
Substituent effects are discussed for the directly-bonded and long-range  
 $^{13}\text{C}$ -H couplings, and correlations are obtained between these couplings and  
EX for the halogens. Without exception, 3-bond  $^{13}\text{C}$ -H couplings are larger  
than the 2-bond couplings for this series of compds.

AN 1971:482221 CAPLUS  
DN 75:82221  
TI **Carbon-13** nuclear magnetic resonance spectra of  
**uracil, thymine**, and the 5-halouracils  
AU Goldstein, J. H.; Tarpley, A. R., Jr.  
CS Chem. Dep., Emory Univ., Atlanta, GA, USA  
SO Journal of the American Chemical Society (1971), 93(15), 3573-8  
CODEN: JACSAT; ISSN: 0002-7863  
DT Journal  
LA English